



FORCE SCIENCE[®]

C O N F E R E N C E

October 16 - 17, 2019

Hilton Garden Inn Chicago O'Hare Airport

2930 South River Road

Des Plaines, IL 60018

1-847-296-8900

Second Annual Conference Program

October 15, 2019 | Optional Pre-Conference Trainings

The Science of Violence (9:00 - 11:45 AM)

OIS Interviews: Psychological and Legal Best Practices (1:00 - 4:15 PM)

Advanced Force Science Specialist Meeting & Reception (6:00 PM)

October 16, 2019 | 2019 Force Science Conference

Conference Check In (8:00 AM - 8:45 AM)

Welcome Message (8:45 AM – 9:00 AM)

Conference Speaker Sessions (9:00 AM – 5:00 PM)

Fajita Bar & Social Hour for All Attendees – Sponsored by VirTra (6:00 PM)

October 17, 2019 | 2019 Force Science Conference

Conference Speaker Sessions (8:30 AM – 4:35 PM)

Closing Remarks (4:45 PM – 5:00 PM)

About the Conference

Welcome to the second annual Force Science Fall Conference! As Force Science graduates, and for newcomers interested in learning more about behavioral science and human performance in law enforcement, you will have the opportunity to receive continuing education and networking opportunities. Discover the latest Force Science findings while learning how fellow law enforcement practitioners, attorneys, and researchers are applying Force Science in the courtroom, on the street, and in training.

Tuesday October 15th, 2019

Pre-Conference Trainings | \$295 for Full Day

The Science of Violence – Geoffrey Desmoulin, PhD RKin **9:00 AM - 11:45 AM**

Course Description: Increase your basic knowledge of physics as it relates to complex injury litigation involving use of force. Specific manner of injury is often generalized in use of force investigations despite some detailed information from emergency medical staff and medical examiners. Over, the decade, courts continue to limit police officers and engineers from opining about injuries and medical professionals from opining about biomechanics in the policing environment. So, who then can address issues of biomechanics in the policing context? Enter the injury biomechanist. This course is intended to increase basic knowledge of how physics relates to complex human injury litigation involving police use of force.

Learning Objectives

- Understand how to apply physics to use of force injury causation (biomechanics)
- How to choose experts for use of force injury causation
- Achieve a better understanding of technical expert reports
- How to better manage your resources involving a technical use of force expert

Delivery

Dynamic lectures, interactive demonstrations, and group work activities

Dr. Desmoulin is the Principal of GTD Scientific Inc. GTD offers Biomechanical Consulting Services on behalf of clients throughout North America, as well as abroad. Focused practice areas include Injury Biomechanics, Incident Reconstruction and Physical Testing with a sub-specialty in the Science of Violence™. GTD has been retained in significant complex injury litigation cases involving municipal police department use of force, violent encounters and TASER International to name just a few examples. Furthermore, landmark testing and shooting reconstruction methodology developed by Dr. Desmoulin was recently upheld as reliable and admissible by the U.S. Federal District Court for the 9th District of California.

In addition, Dr. Desmoulin was selected from an international pool of applicants to be the science and engineering host for Viacom Networks hit television show "Deadliest Warrior". In this high-profile position he assessed engineering aspects, injury potential, and overall battlefield effectiveness of weapons used by warriors throughout history. The series filmed thirty-three episodes (1-hour format) and highlighted sixty-four warriors. Deadliest Warrior continues to air throughout the world in over sixteen countries, thirty-two different languages, and is available in over 96-million homes in the United States alone."

Officer Involved Shooting Interviews: Psychological and Legal Best Practices – William Lewinski, PhD & William Everett, JD **1:00 PM – 4:15 PM**

Course Description: Following an officer involved shooting, investigators have two important objectives; accurately capture the *facts* of the event and accurately capture the officer's *perception* of the event. The timing and manner of conducting the post-shooting interview affects both goals and is influenced by complex legal, social, and psychological factors. Getting it right improves memory consolidation and recall. Getting it wrong risks almost certain contamination. This presentation will assist the attendees in understanding the six critical psychological factors and related legal implications that can influence an officer's reporting. Should the officer view digital evidence (body cam, CCTV, squad car cam) to assist with recall? What do discrepancies between the officer's perception and digital memory mean? How does current research assist investigators in developing interview strategies?

This presentation will also address how institutional trust is affected by the OIS investigative process and offer suggestions to avoid pitfalls associated with some traditional OIS approaches. How can agencies protect the rights and health of officers involved in an OIS? How can effective policy enhance best practices?

Dr. Lewinski is a leading behavioral scientist whose work has focused on the intensive study of human dynamics involved in high stress, life-threatening encounters. He has a Ph.D. in Police Psychology and is a professor emeritus of Law Enforcement at Minnesota State University, Mankato, where he taught for more than 28 years, was an L.E. Program Director and also chair of the Department of Government. Dr. Lewinski's research has impacted law enforcement officers and agencies worldwide and has revolutionized the way force investigations and training are conducted. He is a popular presenter in the law enforcement industry and has appeared before scores of groups world-wide, ranging internationally from New Scotland Yard, the Royal Canadian Mounted Police and the International Association of Chiefs of Police to the British House of Commons and House of Lords as well as Obama's President's Task Force on 21st Century Policing. He has presented to local, state, and national departments throughout North America and the United Kingdom including twice by invitation as a keynote speaker to international medical conferences in the U.K.

Bill Everett is a Senior Instructor with the Force Science Institute and an attorney practicing law in Minnesota. Bill served as a licensed peace officer for two decades, capping his career at the Minnesota DNR as the agency's director of standards and training, and also working with the Bureau of Criminal Apprehension to design and deliver training to qualify officers as use of force instructors.

Bill has been instrumental in Minnesota in modernizing OIS response practices based on the latest evidence-based understandings of officer trauma, memory, and officers' emotional responses to events. Bill has been an instructor with FSI since 2011 and has provided expert testimony and consultation in numerous use of force cases around the country. He holds a Bachelor of Science in Law Enforcement, *magna cum laude*, from Minnesota State University, Mankato, and a Juris Doctor, *magna cum laude*, from the Mitchell Hamline School of Law.

Wednesday, October 16th

Force Science Conference | \$595 for 2-Day Conference

KEYNOTE – Injuries Associated with Police Use of Force – William Bozeman, MD, PACEP, FAAEM 9:00 AM – 10:30 AM

Dr. William Bozeman is the lead author of a recently published study of injuries associated with police use of force. This study combined the expertise of police agencies, physicians, and criminologists to give the most comprehensive view to date of the medical risks of modern police force options and policies. He will discuss the relative risk of different force options as well as some surprising (to some) findings of the study and review the regulatory landscape that allows police agencies to access medical records of suspects after a force utilization.

Dr. William Bozeman is a national advocate of law enforcement use of less lethal weapons and self-aid / buddy aid training in order to reduce or eliminate injuries and deaths whenever possible among police officers, suspects, and the public. He has conducted national studies on the use of TASER[®] conducted electrical weapons, including the first large independent study of injuries from their use, with funding from the National Institute of Justice. Bozeman's clinical and research interests include trauma resuscitation, cardiac arrest resuscitation, emergency medical services, and tactical medicine.

Use of Force Case Analysis & Court Presentation - Corporal Kevin E. Selverian, Sergeant Timothy J. Fetzer, & Corporal Joshua L. Guthrie 10:40 AM – 12:00 PM

12:00 PM – 1:30 PM – Lunch on Your Own

Force Science Institute Research Update- Paul Taylor, PhD 1:30 PM – 2:20 PM

Kinematic Analysis of Suspect-Involved Firearm Threats Toward Police Officers – Robert Pettitt, PhD, FACSM, ATC, CSCS; Jennifer Dysterheft Robb, PhD 2:30 PM – 3:20 PM

Striving for a Blockbuster Academy – Sergeant Michael Musengo; Detective Mark Rusin

3:30 PM – 4:40 PM

Most Law Enforcement trainers across the nation and beyond our borders would agree that our Training Academies are plagued with anachronisms. We then customarily chant the laundry list of reasons and excuses for why things won't change as if mumbling the mantra of our tribe. Budget, planning, mandates/POSTs, instructors, change, administrators, policies, procedures, money, time, more money and let's look in the mirror...it's easier to keep doing what we've been doing. Since tragedies in safety and liability often occur with a temporal distance from the Academy experience, it is easy to disconnect from the direct responsibility and minimize the need for change. It leaves the question of not "How can we do it better...but how could we possibly do it worse?". We will cover our personal attempts, successes and challenges that we have faced while changing our paradigm that follows the empirical evidence. We will then invite the class to join in to a web based information sharing site, designed to learn vicariously through each other's successes, failures and challenges as we strive to create the Blockbuster Academy, breaking down the blocked training and implementing the techniques that will ultimately assist trainees in recall and performance over time. We will display a 27-week schedule/curriculum and open it up for critique, criticism and ideas to build upon and share.

Fajita Bar & Social Hour – Networking event with VirTra Realistic Simulation Demos sponsored by VirTra

6:00 PM

Thursday, October 17th Force Science Conference

Stress-Activity Mapping: Physiological Responses During General Duty Police Encounters – Simon Baldwin, PhD Candidate

8:30 AM – 9:20 AM

Policing is a highly stressful and dangerous profession that involves a complex set of environmental and psychosocial risks. The current study examined autonomic stress responses experienced by 64 general duty police officers, across multiple shifts. This was done to develop a "profile" of physiological responses associated with various aspects of police encounters. Specifically, this novel approach mapped autonomic stress responses to both the phase of a call (e.g., dispatch, en route) and incident factors (e.g., call priority, use-of-force). Advancing previous research, this study utilized GPS and detailed operational police records (e.g., police notes, dispatch records) as objective evidence of specific activities throughout a call for service to be cross-referenced with cardiovascular reactivity data. Furthermore, physical movement (i.e., location and inertia) was tracked and assisted in differentiating whether cardiovascular reactivity was due to physical or psychological stress. Individual variables, including an officer's years of service and training profiles, were examined to conduct a preliminary exploration of whether experience and relevant operational skills training impacted cardiovascular reactivity. Together, these data provide foundational evidence of how frequently officers experience elevated physiological stress responses, which have been associated with cognitive and perceptual-motor performance impairments. Several case studies will be presented and implications of research findings for police operations, investigations, and training will be discussed.

Deliberate Practice: If it Doesn't Challenge You, It Doesn't Change You – Lon Bartel

9:30 AM – 10:20 AM

Public and political expectation of Law Enforcement officer's performance has drastically increased. Yet the training strategies employed and actual field performance have not altered much in the last two decades. Deliberate practice provides a structure for continual improved performance heading toward a path of mastery. This increase in performance can lead to better confidence in officers and better outcomes.

How Characteristics of Visual Perception Intersect with Mistake of Fact Shootings – Lt. Brian N.

O'Donnell

10:30 AM – 11:20 AM

This presentation discusses the characteristics of visual perception and its intersection with mistake of fact shootings; shootings where an officer visually perceives a weapon and none is recovered. A recent encounter in Central Virginia illustrates the limits of visual accuracy on object recognition; especially with ambiguous visual stimuli in time compressed encounters. Three officers responded to a combative subject in an alleyway at nighttime. The three officers were at varying distances from the subject and viewed the subject from three different perspectives. One officer saw, correctly, a pair of pliers while the second "saw" a knife and the third "saw" a gun. The basic mechanics of the visual system are presented; followed by a look at how light, colors, and patterns can produce false or misleading impressions of reality, such as making inanimate objects appear to move. Further discussions include: the time it takes to understand a visual object or scene, how ambiguous visual stimuli can drive attention, how context and expectations influence object recognition, how pre-stimulus sensory templates can bias object recognition, the influence of priming on the interpretation of ambiguous images, attention to distinguishing features in object recognition, and the impact of fatigue and stress on visual perception. Characteristics of the visual system make it almost a statistical inevitability that in the millions of police encounters, an officer will perceive a subject to have a weapon when none is actually present; this has implications for shooting investigations, prosecutorial decision making, and defense strategies.

11:20 AM – 12:45 PM – Lunch on Your Own

Legal and Practical Aspects of Police Use of Force: Preparing for High Level Use of Force Events –

Chief (Ret.) Jeff Chudwin

12:45 PM – 1:35 PM

This block of instruction focuses on police use of deadly force and the training / mindset that prepares officers and agencies for lawful and justifiable actions on the street and in the aftermath of events. Through the use of case studies and video of violent incidents, seminar participants will view force issues from both the legal, policy, and tactical perspectives. The materials and discussion have application to officers of all ranks and experience.

Reasonable but Avoidable? Spotlight on Minnesota Shootings – Sgt. Liam Duggan

1:45 PM – 2:35 PM

This presentation will focus on juxtaposing the concepts of uses of force being found reasonable while also potentially being avoidable. As the social, political and criminal justice system dynamics continue to evolve, police agencies must seek to develop a deeper understanding on how humans interact with each other in stressful situations such as police and citizen crisis events. In doing so, Law Enforcement has a duty to evaluate actions officers take in these moments that may be counter to delivering ideal outcomes and actually increase the likelihood of injury and/or death to themselves and citizens.

Specifically, we will look at the Yanez / Castile shooting in Minnesota from 2016 and (based on available information) the Noor / Damond shooting from 2017 to seek a deeper understanding of how the actions and decisions of the officers could have contributed to or limited the need for the use of force. This presentation is not intended to show that the officers necessarily made wrong decisions; rather, it is to ask difficult questions to seek potential better outcomes where possible for future incidents in officer and citizen outcomes. Primary concepts to discuss will be pre-contact knowledge-driven actions and in-the-moment stress induced decision-making as well as post-incident learning models.

Understanding and Explaining Use of Force Incidents – Chief (Ret.) Mike Ranalli, J.D.

2:45 PM – 3:35 PM

Use of force incidents can involve complicated and dynamic aspects of human performance factors. An officer's use of force may be reasonable, but the way it is explained by a police leader or a prosecutor can lead to false expectations in the media and public. Using conclusive facts, e.g. "the suspect then lunged at the officer" as well as "Graham language", e.g. "at that point the officer feared for his/her life and fired two rounds, ending the threat" imply to the media and the public that a conscious, cognitive decision made by the officer. This can be especially troublesome when available video may appear to contradict those statements. In fact, the use of force may have been an impulsive, "System 1" emergency response. This presentation will highlight the need for care when preparing public statements. Actual incidents will be used to illustrate the issue.

Connecting the Interdisciplinary Dots: Applying Force Science in Law, Policy, and Practice – Lewis

"Von" Kliem, MCJ, JD, LL.M.

3:45 PM – 4:35 PM

It can be easy to get caught up in the "science" of Force Science and to miss powerful practical applications. In this session Von Kliem will provide expert insight into how human factor considerations apply in law, policy, and practice. From charging decisions through litigation, threat assessments through force encounters, policy development through training and operations—Force Science matters. Students will learn how Force Science observations can provide transparency and accountability for police decision-making, including how to expertly defend street-level enforcement decisions to supervisors, review boards, attorneys, and our communities.

Closing Remarks – William Lewinski, Ph.D.

4:45 PM – 5:00 PM